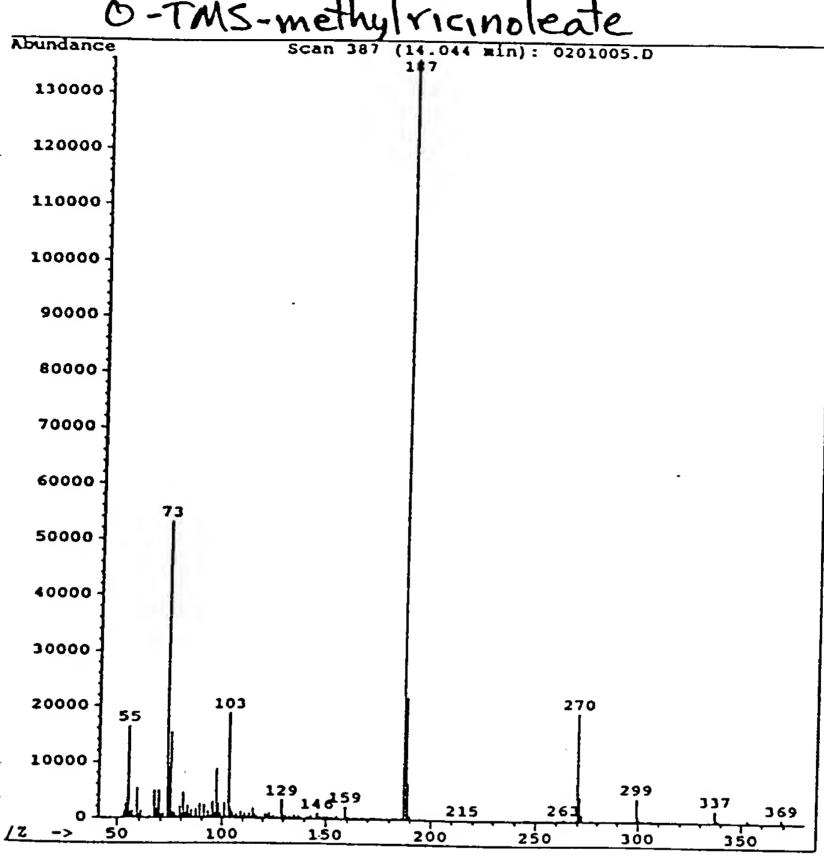
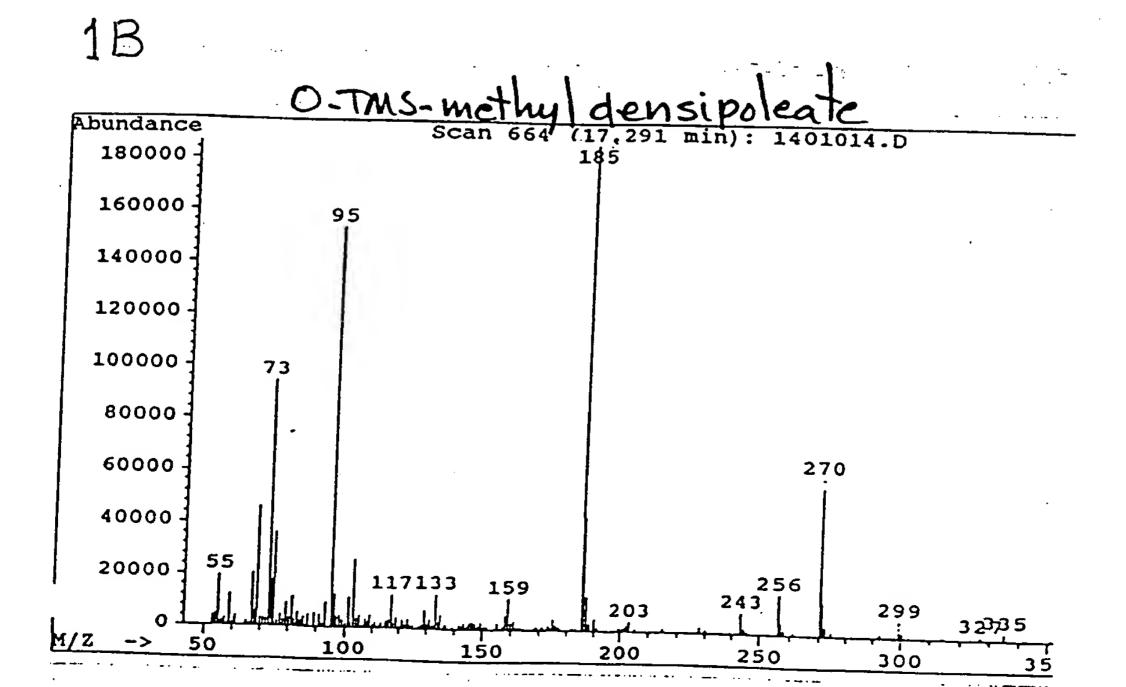
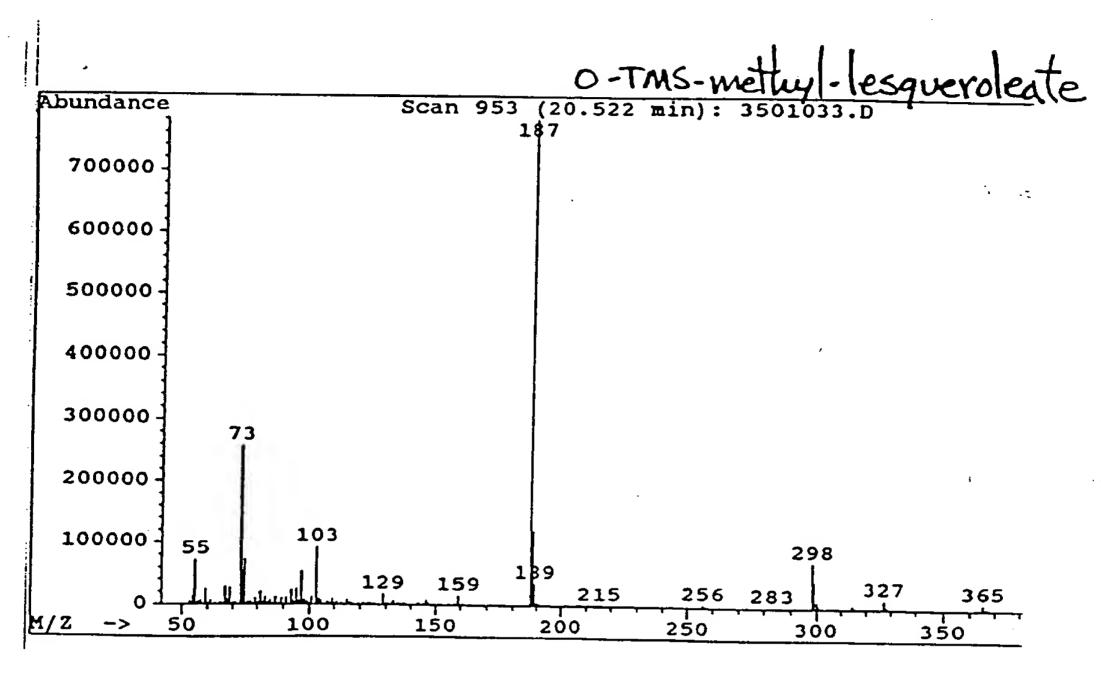
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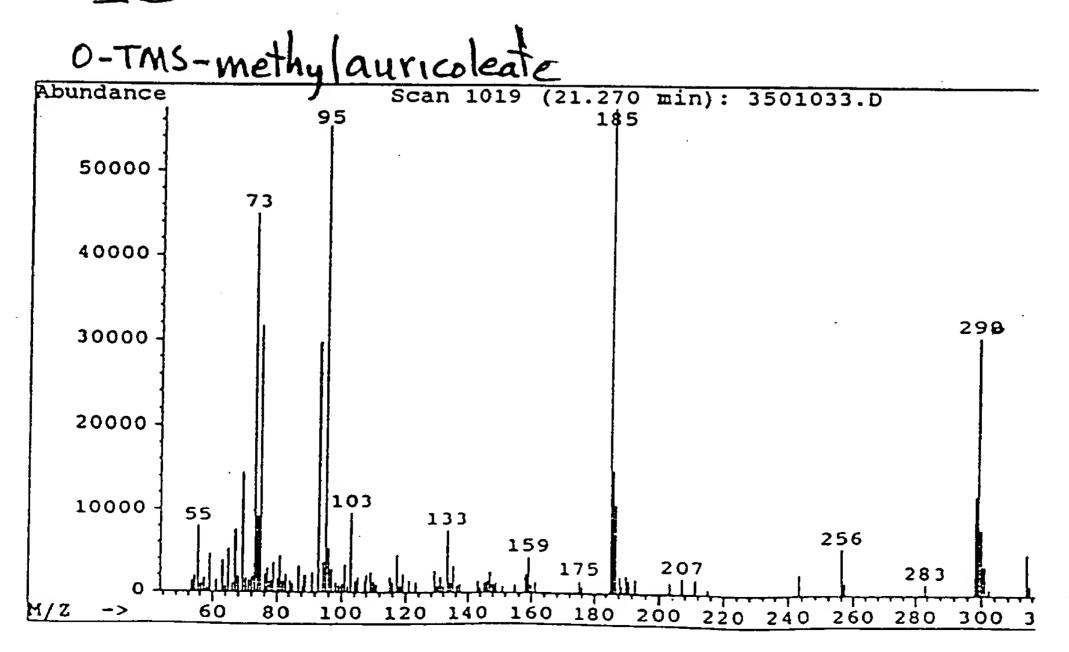


Figure 2.

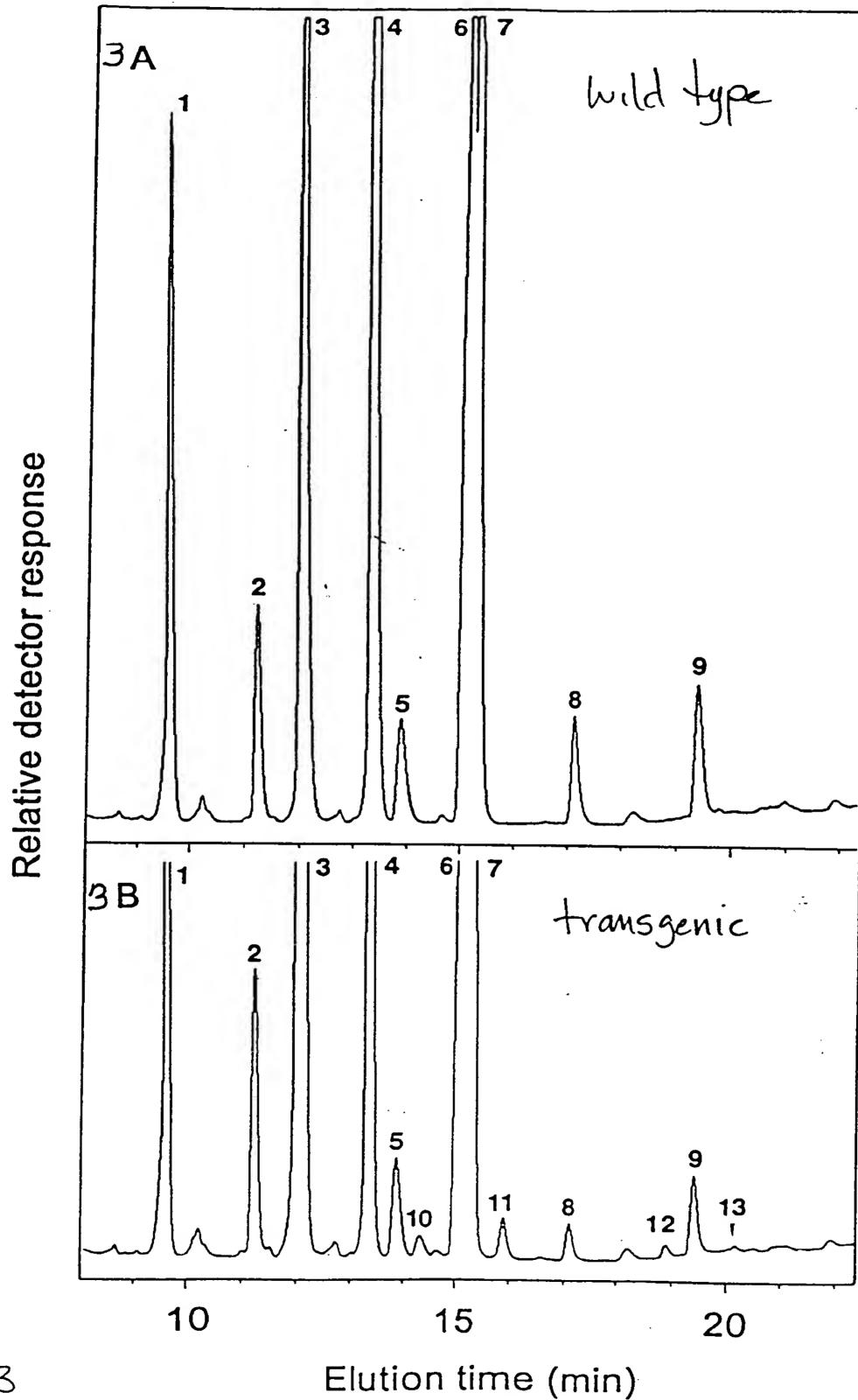
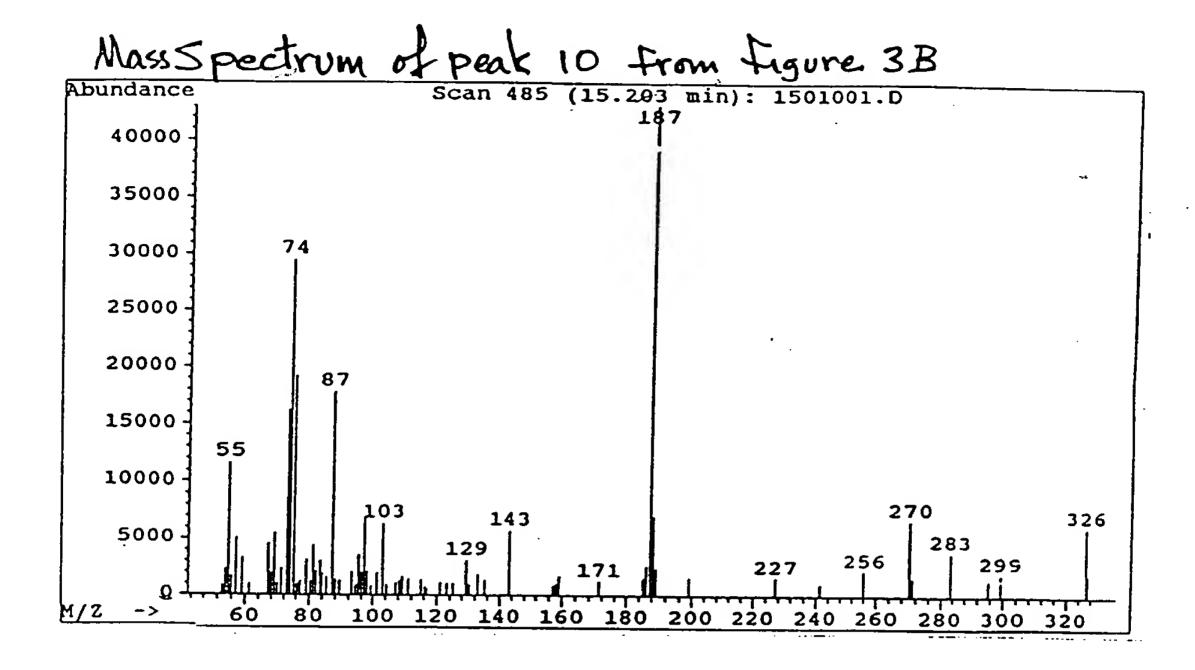
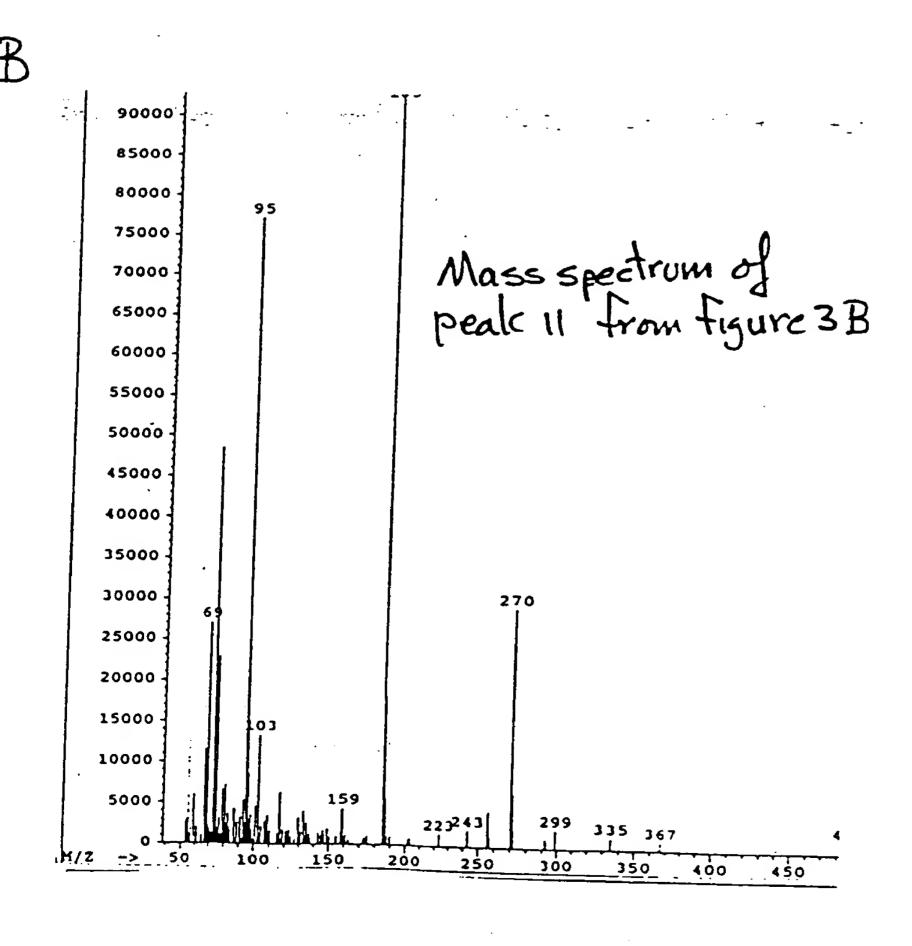
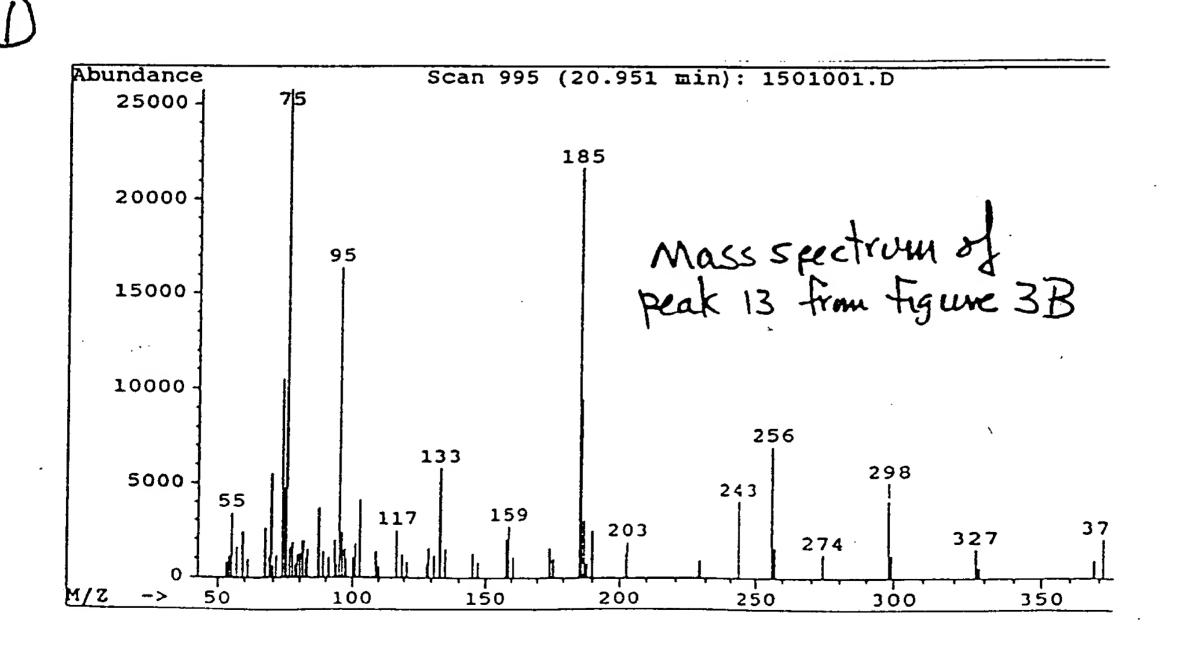


Figure 3









	ATTCTGGTGT	TAACAGTTCA	GTTTATCCTC	GGGTGGCCTT	TGTATCTAGC
	190	200	210	220	230
	TCAGGTAGAC	CTTATGATGG	TTTCGCTTCA	CATTTCTTCC	CTCATGCACC
	250	260	270	280	290
	GACCGTGAAC	GTCTCCAGAT	ATACATCTCA	GATGCTGGTA	TTCTAGCTGT
	310	320	330	340	350
4 777	CTTTACCGTT	ACGCTGCTTC	ACAAGGATTG	ACTGCTATGA	TCTGCGTCTA
	370	380	390	400	410
1 <u>4.4</u>	CTTTTGATAG	TGAACTTTTT	CCTTGTCTTG	GTCACTTTCT	TGCAGCACAC
1.2.5	430	440	450	460	470
<b>4.1.8</b>	TTACCTCACT	ATGATTCAAC	CGAGTGGGAA	TGGATTAGAG	GAGCTTTGGT
	490	500	510	520	530
	AGAGACTATG	GAATCTTGAA	CAAGGTGTTT	CACAACATAA	CAGACACCCA
	550				
111	CAC		ι,		
‡ <u> </u>					

80

140

**GGCGGCACCA** 

**AAGCTGCAGT** 

40

100

160

**GGATCCCTAG** 

**GTCAAATACC** 

30

90

150

**TTCCAACAAT** 

**CANATGGTAT** 

50

110

170

AAAAGATGA

TCAACAACCC

60

120

180

240

300

360

420

480

540

**AGTCTTTGTC** 

**TCTTGGACGC** 

**CTTTAATGTA** 

**TATCTTTAAG** 

CTGTTATGGT

**CGGAGTACCG** 

TCATCCTTCA

**TACGGTAGAC** 

**CGTAGCACAC** 

Figure 5 Nucleotide sequence of pLesq2

10

70

130

**TATTGGCACC** 

CCACCTAAGA

	10	20	30	40	50	60
	TATAGGCACC	GGAGGCACCA	TTCCAACACA		AAAGAGATGA	
	70	80	90	100	110	
	CCAAAGCAGA	AATCCGCAAT	CAAGTGGTAC	GGCGAATACC	TCAACAACCC	TCCTGGTCGC
	130	140	150	160	170	180
	ATCATGATGT	TAACTGTCCA	GTTCGTCCTC	GGATGGCCCT	TGTACTTAGC	CTTCAACGTT
	190	200	210	220	230	240
	TCTGGCAGAC	CCTACAATGG	TTTCGCTTCC	CATTTCTTCC	CCAATGCTCC	TATCTACAAC
	250	260	270	280	290	300
	GACCGTGAAC	GCCTCCAGAT	TTACATCTCT	GATGCTGGTA	TTCTAGCCGT	CTGTTATGGT
	310	320	330	340	350	360
	CTTTACCGTT	ACGCTGTTGC	ACAAGGACTA	GCCTCAATGA	TCTGTCTAAA	CGGAGTTCCG
	370	380	390	400	410	420
:==	CTTCTGATAG	TTAACTTTTT	CCTCGTCTTG	ATCACTTACT	TACAACACAC	TCACCCTGCG
	430	440	450	460	470	480
	TTGCCTCACT	ATGATTCATC	AGAGTGGGAT	TGGCTTAGAG	GAGCTTTAGC	TACTGTAGAC
	490	500	510	520	530	540
	AGAGACTATG	GAATCTTGAA	CAAGGTGTTC	CATAACATCA	CAGACACCCA	CGTCGCACAC
	550					
	CACT					

Figure 6 Nucleotide sequence of pLesq3

Probe
Probe
Probe
Plesq3
Plesq2
S L S L

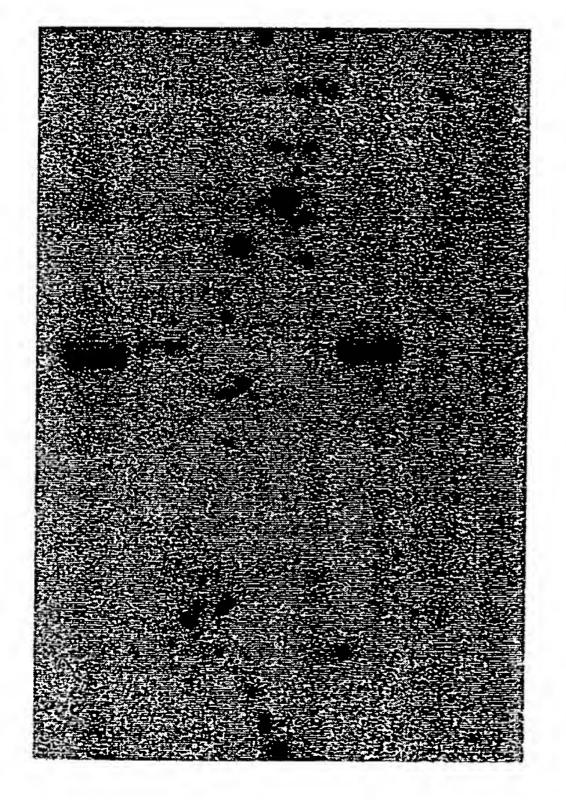


Figure 7

AT GAA GCT TTA TAA GAA GTT AGT TTT CTC TGG TGA CAG AGA AAT TNT 47 95 GTC AAT TGG TAG TGA CAG TTG AAG CAA CAG GAA CAA CAA GGA TGG TTG GTG NTG ATG CTG ATG TGG TGA TGT GTT ATT CAT CAA ATA CTA AAT ACT 143 ACA TTA CTT GTT GCT GCC TAC TTC TCC TAT TTC CTC CGC CAC CCA TTT 191 TGG ACC CAC GAN CCT TCC ATT TAA ACC CTC TCT CGT GCT ATT CAC CAG 239 AAG AGA AGC CAA GAG AGA GAG AGA GAG AAT GTT CTG AGG ATC ATT GTC 287 TTC TTC ATC GTT ATT AAC GTA AGT TTT TTT TGA CCA CTC ATA TCT AAA 335 383 ATC TAG TAC ATG CAA TAG ATT AAT GAC TGT TCC TTC TTT TGA TAT TTT Met Gly Ala Gly Gly Arg Ile Met Val Thr 10 CAG CTT CTT GAA TTC AAG ATG GGT GCT GGT GGA AGA ATA ATG GTT ACC 431 26 Pro Ser Ser Lys Lys Ser Glu Thr Glu Ala Leu Lys Arg Gly Pro Cys CCC TCT TCC AAG AAA TCA GAA ACT GAA GCC CTA AAA CGT GGA CCA TGT 479 Glu Lys Pro Pro Phe Thr Val Lys Asp Leu Lys Lys Ala Ile Pro Gln 42 GAG AAA CCA CCA TTC ACT GTT AAA GAT CTG AAG AAA GCA ATC CCA CAG 527 His Cys Phe Lys Arg Ser Ile Pro Arg Ser Phe Ser Tyr Leu Leu Thr 58 CAT TGT TTC AAG CGC TCT ATC CCT CGT TCT TTC TCC TAC CTT CTC ACA 575 Asp Ile Thr Leu Val Ser Cys Phe Tyr Tyr Val Ala Thr Asn Tyr Phe 74 GAT ATC ACT TTA GTT TCT TGC TTC TAC TAC GTT GCC ACA AAT TAC TTC 623 Ser Leu Leu Pro Gln Pro Leu Ser Thr Tyr Leu Ala Trp Pro Leu Tyr 90 TCT CTT CTT CCT CAG CCT CTC TCT ACT TAC CTA GCT TGG CCT CTC TAT 671 Trp Val Cys Gln Gly Cys Val Leu Thr Gly Ile Trp Val Ile Gly His 106 TGG GTA TGT CAA GGC TGT GTC TTA ACC GGT ATC TGG GTC ATT GGC CAT 719 Glu Cys Gly His His Ala Phe Ser Asp Tyr Gln Trp Val Asp Asp Thr 122 GAA TGT GGT CAC CAT GCA TTC AGT GAC TAT CAA TGG GTA GAT GAC ACT 767 Val Gly Phe Ile Phe His Ser Phe Leu Leu Val Pro Tyr Phe Ser Trp 138 GTT GGT TTT ATC TTC CAT TCC TTC CTT CTC GTC CCT TAC TTC TCC TGG 815 Lys Tyr Ser His Arg Arg His His Ser Asn Asn Gly Ser Leu Glu Lys 154 AAA TAC AGT CAT CGT CGT CAC CAT TCC AAC AAT GGA TCT CTC GAG AAA 863 Asp Glu Val Phe Val Pro Pro Lys Lys Ala Ala Val Lys Trp Tyr Val 170 GAT GAA GTC TTT GTC CCA CCG AAG AAA GCT GCA GTC AAA TGG TAT GTT 911 Lys Tyr Leu Asn Asn Pro Leu Gly Arg Ile Leu Val Leu Thr Val Gln 186 AAA TAC CTC AAC AAC CCT CTT GGA CGC ATT CTG GTG TTA ACA GTT CAG 959

Pro Tyr Asp Gly Phe Ala Ser His Phe Phe Pro His Ala Pro Ile Phe CCT TAT GAT GAT GAT GAT GAT GAT GAT GAT GA																		
Lys Asp Arg Glu Arg Leu Gln Ile Tyr Ile Ser Asp Ala Gly Ile Leu AAA GAC CGA GAA CGC CTC CAG ATA TAC ATC TCA GAT GCT GGT ATT CTA 11    Lys Asp Arg Glu Arg Leu Gln Ile Tyr Ile Ser Asp Ala Gly Ile Leu AAA GAC CGA GAA CGC CTC CAG ATA TAC ATC TCA GAT GCT GGT ATT CTA 11    Ala Val Cys Tyr Gly Leu Tyr Arg Tyr Ala Ala Ser Gln Gly Leu Thr GCT GTC TGT TAT GGT CTT TAC CGT TAC GCT TCA CAA GGA TTG ACT 11    Ala Met Ile Cys Val Tyr Gly Val Pro Leu Leu Ile Val Asn Phe Phe PCT ATT GAT ATT GGA GTA CCG CTT TTG ATA GTG AAC TITT TTC 11    Leu Val Leu Val Thr Phe Leu Gln His Thr His Pro Ser Leu Pro His CTT CTT GTG TA ACT TTC TTG CAG CAC ACT CAT CCT TCG TTA CCT CAT 12    Tyr Asp Ser Thr Glu Trp Glu Trp Ile Arg Gly Ala Leu Val Thr Val 1    TAT GAT TCA ACC GAG TGG GAA TGG ATT AGA GGA GCT TTG GTT ACG GTA 12    Tyr Asp Ser Thr Glu Trp Glu Trp Ile Arg Gly Ala Leu Val Thr Val 1    TAT GAT TCA ACC GAG TGG GAA TGG ATT AGA GGA GCT TTG GTT ACG GTA 12    Tyr Asp Ser Thr Glu Trp Glu Trp Ile Arg Gly Ala Leu Val Thr Val 1    TAT GAT TCA ACC GAG TGG GAA TGG ATT AGA GGA GCT TTG GTT ACG GTA 12    Asp Arg Asp Tyr Gly Ile Leu Asn Lys Val Phe His Asn Ile Thr Asp 3    GAC AGA GAC TAT GGA ATA TTG AAC AAG GTG TTC CAT AAC ATA ACA GAC 31    Thr His Val Ala His His Leu Phe Ala Thr Ile Pro His Tyr Asn Ala 3    ACA CAT GTG GCT CAT CAT CTC TTT GCA ACT ATA CCG CAT TAT AAC GCA 13    Thr His Val Ala His His Leu Phe Ala Thr Ile Pro His Tyr Asn Ala 3    ACG CAT GTG GCT CAT CAT CTC TTT GCA ACT ATA CCG CAT TAT AAC GCA 13    Thr His Val Ala His His Leu Phe Ala Thr Ile Pro His Tyr Asn Ala 3    ACC CAT GTG GCT CAT CAT CTC TTT GCA ACT ATA CCG CAT TAT ACC GCA 13    Thr His Val Ala His His Leu Phe Ala Thr Ile Pro His Tyr Asn Ala 3    ACC CAT GTG GCT ACA GAG GCG ATA AAG CCA ATA CTT GGT GAT TAC TAC CAC 14    Met Glu Ala Thr Glu Ala Ile Lys Pro Ile Leu Gly Asp Tyr Tyr His ATG ACG ACA GCG GAT AGG GCA ATA AGG GCT GAT TAC TAC TAC TAC TAC TAC TAC TAC TAC T		Phe TTT	Ile ATC	Leu CTC	Gly GGG	Trp TGG	Pro CCT	Leu TTG	Tyr TAT	Leu CTA	Ala GCC	Phe TTT	Asn AAT	Val GTA	Ser TCA	Gly GGT	Arg AGA	202 1007
AAA GAC CGA GAA CGC CTC CAG ATA TAC ATC TCA GAT GCT GGT ATT CTA  Ala Val Cys Tyr Gly Leu Tyr Arg Tyr Ala Ala Ser Gln Gly Leu Thr GCT GTC TGT TAT GGT CTT TAC CGT TAC GCT GCT TCA CAA GGA TTG ACT  Ala Met Ile Cys Val Tyr Gly Val Pro Leu Leu Ile Val Asn Phe Phe GCT ATG ATC TGC GTC TAT GGA GTA CCG CTT TTG ATA GTG AAC TIT TTC  Leu Val Leu Val Thr Phe Leu Gln His Thr His Pro Ser Leu Pro His CTT GTC TTG GTA ACT TTC TTG CAG CAC ACT CAT CCT TCG TTA CCT CAT  Tyr Asp Ser Thr Glu Trp Glu Trp Ile Arg Gly Ala Leu Val Thr Val ASP Arg Asp Tyr Gly Ile Leu Asn Lys Val Phe His Asn Ile Thr Asp GAC AGA GAC TAT GGA ATA TTG AAC AAG GTG TTC CAT AAC ATA ACA GAC  ASP Arg Asp Tyr Gly Ile Leu Asn Lys Val Phe His Asn Ile Thr Asp GAC AGA GAC TAT GGA ATA TTG GAA CAAG GTG TTC CAT AAC ATA ACA GAC  ATA TGG GCT CAT CAT CTC TTT GCA ACT ATA CCG CAT TAT AAC GCA  Met Glu Ala Thr Glu Ala His His Leu Phe Ala Thr Ile Pro His Tyr Asn Ala ACA CAT GTG GCT CAT CAT CTC TTT GCA ACT ATA CCG CAT TAT AAC GCA  Met Glu Ala Thr Glu Ala Ile Lys Pro Ile Leu Gly Asp Tyr Tyr His ATG GAA GCT ACA GAG GCG ATA AAG CCA ATA CTT GGT GAT TAC TAC CAC  Phe Asp Gly Thr Pro Trp Tyr Val Ala Met Tyr Arg Glu Ala Lys Glu TTC GAT GGA ACA CCG TGG TAT GTG GCC ATG TAT AGG GAA GCA AAG GAG  Cys Leu Tyr Val Glu Pro Asp Thr Glu Arg Gly Lys Lys Gly Val Tyr TGT CTC TAT GTA GAA CCG GAT ACG GAA CGT GGG AAA AAG GCA ATA  Tyr Tyr Asn Asn Lys Leu TAT TAC AAC AAT AAG TTA TGA GGC TGA TAG GGC GAG AGA AGT GCA ATT  ATC AAT CTT CAT TTC CAT GTA GGG GTA TAG GGC GAG AGA AAG GCA ATT  ATC AAT CTT CAT TTC CAT GTA GGG GTA TAG GTC TTG TTT AAG AAG CTA TGC  GTG CTG AGT ATG GGG TGT CGG AAG TTA GTG GTC TCT CTT  GTG CTG CCC AGT GAA GAA CAA GTT TAC CAC GGG ACG  AAT TGA CCA CAA NAT ATC CAA AAC CGG CTA TCC GAA TTC CAT CCG  AAA CCG CAT ATG GGA ACA CCG GTG GAA GAA CCG CTT CCT GCT  TTT GTT TCA ATA ATC CAA AAC CCG CTA TTA CCG GCA TTT AACA CCG CTA ATC CAC CAA AAC CCG CTA CCT CCT CCT CCT CCT GCT  AAA CCG CAA ATA ATC CAA AAC CGG CTA TCC GAA TTC CAT ATC CGA  AAA CCG CAA AAT ATC CAA AAC CGG CTA TCC GAA TTC CAT ATC CGA  AAA CCG CAA		Pro CCT	Tyr TAT	Asp GAT	Gly GGT	Phe TTC	Ala GCT	Ser TCA	His CAT	Phe TTC	Phe TTC	Pro CCT	His CAT	Ala GCA	Pro CCT	Ile ATC	Phe TTT	218 1055
Ala Met Ile Cys Val Tyr Gly Val Pro Leu Leu Ile Val Asn Phe Phe GCT ATG ATG TG TTT TAG GGT GTT TAG GGT GCT TCA CAA GGA TTG ACT  Ala Met Ile Cys Val Tyr Gly Val Pro Leu Leu Ile Val Asn Phe Phe GCT ATG ATG TGC GTC TAT GGA GTA CCG CTT TTG ATA GTG AAC TTT TTC  Leu Val Leu Val Thr Phe Leu Gln His Thr His Pro Ser Leu Pro His CTT GTC TTG GTA ACT TTC TTG CAG CAC ACT CAT CCT TCG TTA CCT CAT  Tyr Asp Ser Thr Glu Trp Glu Trp Ile Arg Gly Ala Leu Val Thr Val ASP ACG AGA GAC TAT GGA ATA ACG GTA GAT TCA ACC GAG TGG GAA TGG ATT AGA GGA GCT TTG GTT ACG GTA  ASP Arg Asp Tyr Gly Ile Leu Asn Lys Val Phe His Asn Ile Thr Asp GAC AGA GAC TAT GGA ATA TTG AAC AAG GTG TTC CAT AAC ATA ACA GAC GAC  Thr His Val Ala His His Leu Phe Ala Thr Ile Pro His Tyr Asn Ala ACA CAT GTG GCT CAT CAT CTC TTT GCA ACT ATA CCG CAT TAT AAC GCA  Met Glu Ala Thr Glu Ala Ile Lys Pro Ile Leu Gly Asp Tyr Tyr His ATG GAA GCT ACA GAG GCG ATA AAG CCA ATA CTT GGT GAT TAC TAC CAC  Phe Asp Gly Thr Pro Trp Tyr Val Ala Met Tyr Arg Glu Ala Lys Glu TTC GAT GAG ACA CCG TGG TAT GTG GCC ATG TAT AGG GAA GCA AAG GAG  Cys Leu Tyr Val Glu Pro Asp Thr Glu Arg Gly Lys Lys Gly Val Tyr TGT CTC TAT GTA GAA CCG GAT ACG GAA CCG GAT ACG GAA CGT GGG AAG AAG GGT GTC TAC  Tyr Tyr Asn Asn Lys Leu TAT TAC AAC AAT AAG CCA ATA CTT GTT TTA AGA AAG CTA TGC TAC  ATC AAT CTT CAT TTC CAT GTT TTA GGT GTC TTG TTT AAA AAG CTA TGC  TTT GTT TCA ATA ATC TCA GAG TCC ATN TAG TGT GTT TAA AAG CTA TGC  TGC CTA GTT ATG TGG GGT CGG AAG TTA GTG GTC TTG TTT AAA ATA CTC GGT GTT TTC  GTG CCC AGT AAG GAA CAA GTT TAC GTG TTT AAA ATA CTC GGA ACG  AAA TGA CCC CAA NAT ATC CAA ACT CCG CTA TCC GAA TTC CAT ATC CAC  AAA TGA CCC CAA NAT ATC CAA ACT CCG CTA TCC GAA TTC CAT ATC CAC  AAA TGA CCC CAA AAT ATT CCAA ATT TCC ATT TAC CAA ACT CCG CTA TCC GAA TTC CAT ATC CAA ATT TCC ATT TTC CAT TTC CA		Lys AAA	Asp GAC	Arg CGA	Glu GAA	Arg CGC	Leu CTC	Gln CAG	Ile	Tyr TAC	Ile ATC	Ser TCA	Asp GAT	Ala GCT	Gly GGT	Ile ATT	Leu CTA	234 1103
Leu Val Leu Val Thr Phe Leu Gln His Thr His Pro Ser Leu Pro His CTT GTC TTG GTA ACT TTC TTG CAG CAC ACT CAT CCT TCG TTA CCT CAT 12  Tyr Asp Ser Thr Glu Trp Glu Trp Ile Arg Gly Ala Leu Val Thr Val 12  Asp Arg Asp Tyr Gly Ile Leu Asn Lys Val Phe His Asn Ile Thr Asp GAC AGA GAC TTG GTT ACG GTA 13  Thr His Val Ala His His Leu Phe Ala Thr Ile Pro His Tyr Asn Ala ACA CAT GTG GAT GCA ACT CAT CTT GTG GAT TAC ACC GAG TGG GAT AAG ACT ATA CCG CAT TAT AAC GCA 13  Thr His Val Ala His His Leu Phe Ala Thr Ile Pro His Tyr Asn Ala ACA CAT GTG GCT CAT CAT CTC TTT GCA ACT ATA CCG CAT TAT AAC GCA 13  Met Glu Ala Thr Glu Ala Ile Lys Pro Ile Leu Gly Asp Tyr Tyr His ATG GAA GCT ACA GAG GCG ATA AAG CCA ATA CTT GGT GAT TAC CAC 14  Phe Asp Gly Thr Pro Trp Tyr Val Ala Met Tyr Arg Glu Ala Lys Glu TTC GAT GGA ACA CCG TGG TAT GTG GCC ATG TAT AGG GAA GCA AAG GAG 14  Cys Leu Tyr Val Glu Pro Asp Thr Glu Arg Gly Lys Lys Gly Val Tyr TGT CTC TAT GTA GAA CCG GAT ACG GAA CGT GAG AAG GAA AGG GAG 14  Tyr Tyr Asn Asn Lys Leu TAT TAC AAC AAT AAG CTA TTA GGG GAA AGG GAA CTA GTA CTG GTG TAT GTG GCC ATG TTA TAC GAC ATT TAC TAC CAC 15  Tyr Tyr Asn Asn Lys Leu TAT TAC AAC AAT AAG TTA GGG GAA AGG GAA GTT TAC TAC CAC 16  TTG GTT TCA ATA ATC TCA GAG TCC ATN TAG TTG TTT AAG AAG CTA TTT 16  TGC CTA GTT ATG TGG TGT CGG AAG TTA GTG GTC TCT GTT TAT AGG AAG CTA TTT 16  TGC CTA GTT ATG TGG TGT CGG AAG TTA GTG TTC AAA CTG CTT CCT GCT 17  GTG CTG CCC AGT GAA GAA CAA GTT TAC GTG TTT AAA ATA CTC GGA ACG 17  AAA CCG CAT ATG CAA AAT ATC CAA AAC CGG CTA TCC GAA TTC CAT ATC CGA AAT TGC CAA AAT AAC CTG CTA ATC CAA AAT ATC CAA AAC CGG CTA TCC GAA TTC CAT ATC CGA AAC CCG CTA TCC GAA TTC CAT ATC CGA AAC CCG CTA TCC CAA ATT CCC CAT ATC CAA AAT ATC CAA AAT ATC CAA AAC CGG CTA TCC GAA TTC CAT ATC CGA AAC CCG CTA TCC CAA ATT CCC CAT ATC CAA AAC CCG CTA TCC CAA ATC CAT ATC CGA AAC CCG CTA TCC CAA TTC CAT ATC CGA AAC CCG CTA TCC CAA ATC CAT ATC CGA AAC CCG CTA TCC CAA ATC CAT ATC CGA AAC CCG CTA TCC CAA ATC CAT ATC CAA ACC CGG CTA TCC CAA ATC CAT ATC CAA ACC CGG CTA TCC CAA ATC CAT AT		Ala GCT	Val GTC	Cys TGT	Tyr TAT	Gly GGT	Leu CTT	Tyr TAC	Arg CGT	Tyr TAC	Ala GCT	Ala GCT	Ser TCA	Gln CAA	Gly GGA	Leu TTG	Thr ACT	250 1151
Tyr Asp Ser Thr Glu Trp Glu Trp Ile Arg Gly Ala Leu Val Thr Val Asp Arg Asp Tyr Gly Ile Leu Ash Lys Val Phe His Ash Ile Thr Asp GAC AGA GAC GAT GGA ATA GAC GAT TAT GAT TAT GAT TAT GAT GAT TAT GAT G		Ala GCT	Met ATG	Ile ATC	Cys TGC	Val GTC	Tyr TAT	Gly GGA	Val GTA	Pro CCG	Leu CTT	Leu TTG	Ile ATA	Val GTG	Asn AAC	Phe TTT	Phe TTC	266 1199
ASP Arg Asp Tyr Gly Ile Leu Asn Lys Val Phe His Asn Ile Thr Asp GAC AGA GAC TAT GGA ATA TTG AAC AAG GTG TTC CAT AAC ATA ACA GAC 13  Thr His Val Ala His His Leu Phe Ala Thr Ile Pro His Tyr Asn Ala ACA CAT GTG GCT CAT CTC TIT GCA ACT ATA CCG CAT TAT AAC GCA 13  Met Glu Ala Thr Glu Ala Ile Lys Pro Ile Leu Gly Asp Tyr Tyr His ATG GAA GCT ACA GAG GCG ATA AAG CCA ATA CTT GGT GAT TAC TAC CAC 14  Phe Asp Gly Thr Pro Trp Tyr Val Ala Met Tyr Arg Glu Ala Lys Glu 14  Cys Leu Tyr Val Glu Pro Asp Thr Glu Arg Gly Lys Lys Gly Val Tyr GTT CTC TAT GTA GAA CCG GAT ACG GAA GCT AAC GAG GAA ACG GAT ACG GAA CGT GGG AAG AAA GGT GTC TAC 15  Tyr Tyr Asn Asn Lys Leu TAT TAC AAC AAT AAG CTA TTG GTT TTA AGG AAC AAT ACT CTC TAT GTA GAA CCG GAT TAT AGG GCC AGG AGA AAG GCA ATT 15:  ATC AAT CTT CAT TTC CAT GTT TTA GGT GTC TTG TTT AAG AAG CTA TGC 16:  TTT GTT TCA ATA ATC TCA GAG TCC ATN TAG TTG TTT AAA ACG CTT CCT GCT 17:  GTG CTG CCC AGT GAA GAA CAA GTT TAC GTG TTT AAA ATA CTC GGA ACG 17:  AAA CCG CAA AAT ATC CAA AAT TCC CAA AAC CGG CTA TCC GAA TTC CAT ATC CGA AAT TGA CCG CAT ATC CAA ATT TAC CAA ATT CCG CTA TTC CAT ATC CAA ATT TAC CAA ATT CCG CTA TTC CAT ATC CAA ATT CCG CAA ATT TAC CAA AT		Leu CTT	Val GTC	Leu TTG	Val GTA	Thr ACT	Phe TTC	Leu TTG	Gln CAG	His CAC	Thr ACT	His CAT	Pro CCT	Ser TCG	Leu TTA	Pro CCT	His CAT	282 1247
Thr His Val Ala His His Leu Phe Ala Thr Ile Pro His Tyr Asn Ala ACA CAT GCC CAT GTG GCT CAT CAT CTC TIT GCA ACT ATA CCG CAT TAT AAC GCA 13  Met Glu Ala Thr Glu Ala Ile Lys Pro Ile Leu Gly Asp Tyr Tyr His ATG GAA GCT ACA GAG GCG ATA AAG CCA ATA CTT GGT GAT TAC TAC CAC 14  Phe Asp Gly Thr Pro Trp Tyr Val Ala Met Tyr Arg Glu Ala Lys Glu 14  TTC GAT GGA ACA CCG TGG TAT GTG GCC ATG TAT AGG GAA GCA AAG GAG 14  Cys Leu Tyr Val Glu Pro Asp Thr Glu Arg Gly Lys Lys Gly Val Tyr 15  Tyr Tyr Asn Asn Lys Leu TAT GTA GAA CCG GAT ACG GAA CGT GGG AAG AAA GGT GCA ATT 15  ATC AAT CTT CAT TTC CAT GTT TA GGT GTC TTG TTT AAG AAG CTA TGC 16  TTT GTT TCA ATA ATC TCA GAG TCC ATN TAG TTG TGT TCT GGT GCA TTT 16  TGC CTA GTT ATG TGG TAG CGA AGA GTT TAC GTG TTC AAA CTG CTT CCT GCT 17  GTG CTG CCC AGT GAA GAA CAA GTT TAC GTG TTT AAA ATA CTC GGA ACG 17  AAA CCG CAT ATC CAA ATT TCC AAA ATT TCC ACA AAC CTA CTT CTT		Tyr TAT	Asp GAT	Ser TCA	Thr ACC	Glu GAG	Trp TGG	Glu GAA	Trp TGG	Ile ATT	Arg AGA	Gly GGA	Ala GCT	Leu TTG	Val GTT	Thr ACG	Val GTA	298 1295
Met Glu Ala Thr Glu Ala Ile Lys Pro Ile Leu Gly Asp Tyr Tyr His ATG GAA GCT ACA GAG GCG ATA AAG CCA ATA CTT GGT GAT TAC TAC CAC 14  Phe Asp Gly Thr Pro Trp Tyr Val Ala Met Tyr Arg Glu Ala Lys Glu 14  Cys Leu Tyr Val Glu Pro Asp Thr Glu Arg Gly Lys Lys Gly Val Tyr 15  TGT CTC TAT GTA GAA CCG GAT ACG GAA CGT GGG AAG AAG GGT GTC TAC 15  Tyr Tyr Asn Asn Lys Leu 15  ATC AAT CTT CAT TIC CAT GTT TTA GGT GTC TTG TTT AAG AAG CTA TGC 16  TIT GTT TCA ATA ATC TCA GAG TCC ATN TAG TTG TGT TCT GGT GCA TTT 16  TGC CTA GTT ATG TGG TGT CGG AAG TTA GTG TTC AAA CTG CTT CCT GCT 17  GTG CTG CCC AGT GAA GAA CAA GTT TAC GTG TTT AAA ATA CTC GGA ACG 17  AAA CGG GAT ACG GAA ATT TGC AGA GTT GTT TAC GTG TTT AAA ATA CTC GGA ACG 18  AAA CGG GAT ACG GAA ATT TGC AGA GTT GTT TAC GTG TTT CAT ATC CGA 18  AAA CGG GAT ACG GAA ATT TGC AGA GTT GTT GTT TCC GAT TTC CGA 18  AAA CGG GAT ACG GAA ATT TCC AGA ATT TCC AGA GTT CTT GTT TCC ATTC CGA 18  AAA CGG GAT ACG GAA ATT TCC AGA ATT TCC AGA GTT CTT ATC CGA 18  AAA CGG GAT ACG GAA ATT TCC AGA ATT TCC AGA GTT CTT ATC CGA 18  AAA CGG GAT ACG GAA ATT TCC AGA ATT TCC AGA GTT CTT ATC CGA 18  AAA CGG GAT ACG GAT ACG GAA ATT TCC AGA ATT TCC GAT ATC CGA 18  AAA CGG GAT ACG GAT ACG GAA ATT TCC AGA ATT TCC GAT ATC CGA 18  AAA CGG GAT ACG GAT ACG GAA ATT TCC GAT ACC GAT TTC CGT TCCT GCT 17  AAA CGG GAT ACG GAT ACG GAA ATT TCC GAT ACC GAT TTC CGT TCCT GCT 18  AAA CGG GAT ACG GAT ACG CAA ATT TCC AGA GTT CTT CTT GTT TCC GAT		Asp GAC	Arg AGA	Asp GAC	Tyr TAT	Gly GGA	Ile ATA	Leu TTG	Asn AAC	Lys AAG	Val GTG	Phe TTC	His CAT	Asn AAC	Ile	Thr ACA	Asp GAC	314 1343
ATG GAA GCT ACA GAG GCG ATA AAG CCA ATA CTT GGT GAT TAC TAC CAC  Phe Asp Gly Thr Pro Trp Tyr Val Ala Met Tyr Arg Glu Ala Lys Glu TTC GAT GGA ACA CCG TGG TAT GTG GCC ATG TAT AGG GAA GCA AAG GAG  Cys Leu Tyr Val Glu Pro Asp Thr Glu Arg Gly Lys Lys Gly Val Tyr TGT CTC TAT GTA GAA CCG GAT ACG GAA CGT GGG AAG AAA GGT GTC TAC  Tyr Tyr Asn Asn Lys Leu TAT TAC AAC AAT AAG TTA TGA GGC TGA TAG GGC GAG AGA AGT GCA ATT  ATC AAT CTT CAT TTC CAT GTT TTA GGT GTC TTG TTT AAG AAG CTA TGC  TTT GTT TCA ATA ATC TCA GAG TCC ATN TAG TTG TGT TCT GGT GCA TTT  TGC CTA GTT ATG TGG TGT CGG AAG TTA GTG TTC AAA CTG CTT CCT GCT  GTG CTG CCC AGT GAA GAA CAA GTT TAC GTG TTT AAA ATA CTC GGA ACG  AAT TGA CCA CAA NAT ATC CAA AAC CTG CTA TCC GAA TTC CGA  AAA CCG GAT ATG CAA ATT TCC AAA CTA CTA CTA CTA CTA CTA		Thr ACA	His CAT	Val GTG	Ala GCT	His CAT	His CAT	Leu CTC	Phe TTT	Ala GCA	Thr ACT	Ile ATA	Pro CCG	His CAT	Tyr TAT	Asn AAC	Ala GCA	330 1391
Cys Leu Tyr Val Glu Pro Asp Thr Glu Arg Gly Lys Lys Gly Val Tyr TGT CTC TAT GTA GAA CCG GAT ACG GAA CGT GGG AAG AAA GGT GTC TAC 15  Tyr Tyr Asn Asn Lys Leu TAT TAC AAC AAT AAG TTA TGA GGC TGA TAG GGC GAG AGA AGT GCA ATT 156  ATC AAT CTT CAT TTC CAT GTT TTA GGT GTC TTG TTT AAG AAG CTA TGC 165  TTT GTT TCA ATA ATC TCA GAG TCC ATN TAG TTG TGT TCT GGT GCA TTT 176  GTG CTA GTT ATG TGG TGT CGG AAG TTA GTG TTC AAA CTG CTT CCT GCT 176  GTG CTG CCC AGT GAA GAA CAA GTT TAC GTG TTT AAA ATA CTC GGA ACG 177  AAT TGA CCA CAA NAT ATC CAA AAC CGG CTA TCC GAA TTC CAT ATC CGA 186		Met ATG	Glu GAA	Ala GCT	Thr ACA	Glu GAG	Ala GCG	Ile ATA	Lys AAG	Pro CCA	Ile ATA	Leu CTT	Gly GGT	Asp GAT	Tyr TAC	Tyr TAC	His CAC	346 1439
TGT CTC TAT GTA GAA CCG GAT ACG GAA CGT GGG AAG AAA GGT GTC TAC  TYP TYP ASN ASN LYS LEU TAT TAC AAC AAT AAG TTA TGA GGC TGA TAG GGC GAG AGA AGT GCA ATT  ATC AAT CTT CAT TTC CAT GTT TTA GGT GTC TTG TTT AAG AAG CTA TGC  TTT GTT TCA ATA ATC TCA GAG TCC ATN TAG TTG TGT TCT GGT GCA TTT  TGC CTA GTT ATG TGG TGT CGG AAG TTA GTG TTC AAA CTG CTT CCT GCT  GTG CTG CCC AGT GAA GAA CAA GTT TAC GTG TTT AAA ATA CTC GGA ACG  AAA CCG CAT ATC CAA ATT TCC ACA CTA CTT ACC		Phe TTC	Asp GAT	Gly GGA	Thr ACA	Pro CCG	Trp TGG	Tyr TAT	Val GTG	Ala GCC	Met ATG	Tyr TAT	Arg AGG	Glu GAA	Ala GCA	Lys AAG	Glu GAG	362 1487
TAT TAC AAC AAT AAG TTA TGA GGC TGA TAG GGC GAG AGA AGT GCA ATT  ATC AAT CTT CAT TTC CAT GTT TTA GGT GTC TTG TTT AAG AAG CTA TGC  TTT GTT TCA ATA ATC TCA GAG TCC ATN TAG TTG TGT TCT GGT GCA TTT  TGC CTA GTT ATG TGG TGT CGG AAG TTA GTG TTC AAA CTG CTT CCT GCT  GTG CTG CCC AGT GAA GAA CAA GTT TAC GTG TTT AAA ATA CTC GGA ACG  AAT TGA CCA CAA NAT ATC CAA AAC CGG CTA TCC GAA TTC CAT ATC CGA  AAA CCG GAT ATC CAA ATT TCC ACA CTT CTT ACC		Cys TGT	Leu CTC	Tyr TAT	Val GTA	Glu GAA	Pro CCG	Asp GAT	Thr ACG	Glu GAA	Arg CGT	Gly GGG	Lys AAG	Lys AAA	Gly GGT	Val GTC	Tyr TAC	378 1535
TTT GTT TCA ATA ATC TCA GAG TCC ATN TAG TTG TGT TCT GGT GCA TTT 167 TGC CTA GTT ATG TGG TGT CGG AAG TTA GTG TTC AAA CTG CTT CCT GCT 177 GTG CTG CCC AGT GAA GAA CAA GTT TAC GTG TTT AAA ATA CTC GGA ACG 177 AAT TGA CCA CAA NAT ATC CAA AAC CGG CTA TCC GAA TTC CAT ATC CGA 187								TGA	GGC	TGA	TAG	GGC	GAG	AGA	AGT	GCA	ATT	384 1583
TGC CTA GTT ATG TGG TGT CGG AAG TTA GTG TTC AAA CTG CTT CCT GCT 172 GTG CTG CCC AGT GAA GAA CAA GTT TAC GTG TTT AAA ATA CTC GGA ACG 172 AAT TGA CCA CAA NAT ATC CAA AAC CGG CTA TCC GAA TTC CAT ATC CGA 182		ATC	AAT	CTT	CAT	TTC	CAT	GTT	TTA	GGT	GTC	TTG	TTT	AAG	AAG	СТА	TGC	1631
GTG CTG CCC AGT GAA GAA CAA GTT TAC GTG TTT AAA ATA CTC GGA ACG 177  AAT TGA CCA CAA NAT ATC CAA AAC CGG CTA TCC GAA TTC CAT ATC CGA 182		TTT	GTT	TCA	ATA	ATC	TCA	GAG	тсс	ATN	TAG	TTG	TGT	TCT	GGT	GCA	TTT	1679
AAT TGA CCA CAA NAT ATC CAA AAT TGG AGA GTA GTT AG	•	TGC	СТА	GTT	ATG	TGG	TGT	CGG	AAG	TTA	GTG	TTC	AAA	CTG	CTT	ССТ	GCT	1727
AAA CCC CAT ATC CAA ATT TCC ACA CTA CTT AC	(	GTG	CTG	ССС	AGT	GAA	GAA	CAA	GTT	TAC	GTG	TTT	AAA	ATA	СТС	GGA	ACG	1775
AAA CCG GAT ATC CAA ATT TCC AGA GTA CTT AG	1	AAT	TGA	CCA	CAA	NAT	ATC	CAA	AAC	CGG	СТА	TCC	GAA	ттс	CAT	ATC	CGA	1823
	1	AAA	CCG	GAT	ATC	CAA	ATT	TCC	AGA	GTA	СТТ	AG						1855

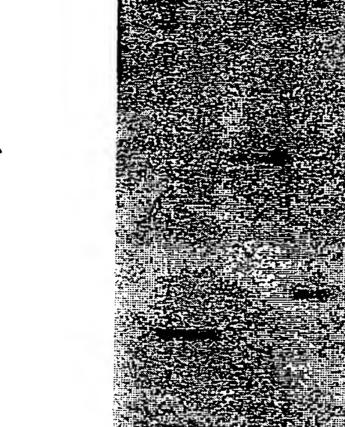
	-			• •		\$	
	·					· ·	
LFFAH12.AMI	1	MCACCDIM	20 Impages	)	40	50	- **. - #
FAH12.AMI	1	MGGGGRMSTV	TTCMICERYO	ETEALKRG	PCEKPPFTVK	DLKKAIPQHC	50
ATFAD2.AMI	1	MGAGGRMP	NDTCCVVC	GSSHLKRA	PHTKPPFTLG	DLKRAIPPHC	50
BNFAD2.AMI	1	MGAGGRMO	NCDDCKKC	ETUITKRV	PCEKPPFSVG	DLKKAIPPHC	50
D2-1.AMI	1	MGLA-KETTM	GGRGRUAKUE	AOCKADI CDA	PCETPPFTVG	QLKKAIPPHC QLKKAIPPHC	50
GMFAD2-2.AMI	1	MGAGGR	TDVPPANRKS	EMDIREM	PNTKPPFTVG	QIKKAIPPHC QIKKAIPPHC	50
ZMFAD2.AMI	1	MGAGGRMTEK	EREKOEOLAR	ATCCA AMORC	PLEADDEM	QIKKAIPPHC	50
RCFAD2.AMI	1				PVERPETEG	<b>GIKKAIPPHC</b>	50
		60	70	80	90	100	50
LFFAH12.AMI	51					100 LAWPLYWVCQ	
FAH12.AMI	51	FERSFVRSFS	YVAYDVCIGE	LFYSTATMEF	DATECTIC A	PWARPIAMACÓ	100
ATFAD2.AMI	51	FKRSIPRSFS	YLISDITTAS	CEVVVATNVE	SILDODIC V	VAWLVYWLFQ	100
BNFAD2.AMI	51	FKRSIPRSFS	HLIWDIIAS	CFYYVATTYF	PI.I.PNDI.C_V	TWASTIMWCO	100
GMFAD2-1.AMI	51	FQRSLLTSFS	YVVYDLSHAF	IFY-TATTYF	HIJ.POPES_I	TAMPLIMACQ	100
GMFAD2-2.AMI	51	FQRSVLRSFS	YVVYDLTJAF	CLYYVATHYF	HLLPGPLS-E	PCMATYMATIO	100
ZMFAD2.AMI	51	FERSVLKSFS	YVVHDLVIAA	ALLYFALAII	PALPSPLR-V	AAWDIVWITAO	100
RCFAD2.AMI	51					AAWFDIWIAQ	100
The state of the s		110	120	130	140	150	100
LFFAH12.AMI	101	GCVLTGIWVI				VECMKACHDD	150
FAH12 AMI	101	GCILTGLWVI	CHECCHHAFS	EYOLADDIVG	LIVHSALLVP	VESWKYSHAN	150
ATFADA . AMI	101	GCVLTGIWVI	AHECGHHAFS	DYQWLDDTVG	LIFHSFLLVP	YESWKYSHRR	150
BNFAD2.AMI	101	GCVLTGVWVI	AHECGHAAFS	DYOWLDDTVG	LIFHSFLLVP	YESWKYSHDD	150
GMFAD2-1.AMI	101	GCLLTGVWVI	AHECGHHAFS	KYQWVDDVVG	LTLHSTLLVP	YESWKISHRR	150
GMFAD2-2.AMI	101	GCILTGVWVI	AHECGHHAFS	DYQLLDDIVG	LILHSALLVP	YESWKYSHRR	150 -150
ZMFADZ AMI	101	G	AFS	DYSLLDDVVG	LVLHSSLMVP	YESWKYSHRR	150
RCFAD2.AMI	101	WVM	AHDCGHHAFS	DYQLLDDVVG	LILHSCLLVP	YESWKHSHRR	150
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		160	170	180	190	200	130
LFFAH12.AMI	151	HHSNNGSLEK	DEVFVPPKKA	AVKWYVKYL-		TVOFILGWPI.	200
FAH12 AMI	151	HHSNIGSLER	DEVFVPKSKS	KISWYSKYS-	NNPPGRVLTL	AATLLLGWPL	200
ATFAD2.AMI	151						200
BNFAD2.AMI	151	HHSNIGSLER	DEVFVPR-RS	QTSSGTAST-	STTFGRTVML	TVOFTLGWPL	200
GMFAD2-1.AMI	151	<b>.</b> .					200
GMFAD2-2.AMI	151	HHSNIGSLER	DEVFVPKQKS	CIKWYSKYL-	NNPPGRVLTL	AVTLTLGWPL	200
ZMFAD2.AMI	151	HHSNIGSLER	DEVFVPKKKE	ALPWYTPYVY	NNPVGRVVHI	VVQLTLGWPL	200
RCFAD2.AMI	151	HHSNUGSLER	DEVFVPKKKS	SIRWYSKYL-	NNPPGRIMTI	AVTLSLGWPL	200
		210	220	230	240	250	
LFFAH12.AMI	201	YLAFNVSGRP	YDG-FASHFF	PHAPIFKDRE	RLQIYISDAG	ILAVCYGLYR '	250
FAH12.AMI	201	YLAFNVSGRP	YDR-FACHYD	PYGPIFSERE	RLQIYIADLG	IFATTFVLYQ	250
ATFAD2.AMI	201	YLAFNVSGRP	<del>YDG</del> -FACHFF	PNAPIYNDRE	RLQIYLSDAG	ILAVCFGLYR	250
BNFAD2.AMI	201	YLAFNVSGRP	YDGGFACHFH	PNAPIYNDRE	RLQIYISDAG	ILAVCYGLLP	250
GMFAD2-1.AMI		YLAFNVSGRP					250
GMFAD2-2.AMI		YLALNVSGRP					250
ZMFAD2.AMI		YLATNASGRP					250
RCFAD2.AMI	201	YLAFNVSGRP	YDR-FACHYD	PYGPIYNDRE	RIEIFISDAG	VLAVTFGLYQ	250
I DUNIII O BECT	<b>~</b>	260	270	280	290	300	
LFFAH12.AMI		YAASQGLTAM					300
FAH12.AMI		ATMAKGLAWV					300
ATFAD2.AMI		YAAAQGMASM					300
BNFAD2.AMI		YAAVQGVASM					300
C'FAD2-1.AMI		VATLKGLVWL					300
AD2-2.AMI ZMFAD2.AMI	251	LAMAKGLAWV	VCVYGVPLLV	VNGFLVLITF	LQHTHPALPH	YTSSEWDWLR	300
am ADZ . AUI	25l	LAAAFGVWV	VRVYAVPLLI	VNAWLVLITY	LQHTHPSLPH	YDSSEWDWLR	300

Figure 9 A

·							
		<del>-</del>	<del>.</del>	·			•
RCFAD2.AMI	251	LATAKGLAWV	- VCVYGVPLLV	VNSFLVLTTE	тонтирацъй	YDSSEWDWLR	
		310				350	300
LFFAH12.AMI	301	GALVIVDRDY			_	ATEAIKPILG	350
FDH12.AMI		1 1			I 1	ATKAIKPIMG	350 350
IMA. SC		1 1			1 1	ATKAIKPILG	350
BNFAD2.AMI		6 3			4 1	ATKAIKPILG	350
GMFAD2-1.AMI		1 1				ATNAIKPILG	350
GMFAD2-2.AMI		<b>6</b> <i>1</i>				ATKAIKPILG	350
ZMFAD2.AMI	301	GALATMORDY	GILNRVFHNI	TDTHVAHHLF	STMPHYHAME	ATKAIRPILG	350
RCFAD2.AMI			GILNKVFHNI		U		350
		360				400	330
LFFAH12.AMI	351	DYYHFDGTPW	YVAMYREAKE	CLYVEPDTER	GKKGVYYYNN	K-L	400
FAH12.AMI	351	EYYRYDGTPF	YKALWREAKE	CLFVEPDEGA	PTQGVFWYRN	KY	400
ATFAD2.AMI		·	YVAMYREAKE				400
BNFAD2.AMI	351	EYYQFDGTPV	VKAMWREAKE	CIYVEPDRQG	EKKGVFWYNN	KL*	400
GMFAD2-1.AMI	351	EYYQFDDTPF	YKALWREARE	CLYVEPDEGT	SEKGVYWYRN	KY	400
GMFAD2-2.AMI	351	EYYRFDETPF	VKAMWREARE	CIYVEPDQST	ESKGVFWYNN	KL	400
ZMFAD2.AMI	351	DYYHFDPTPV	AKATWREAGE	CIYVEPE	DRKGVFWYNK	KF*	400
RCFAD2.AMI	351						400
d for horse		410	420	430	440	450	
LFFAH12.AMI	401					• • • • • • • • •	450
FAH12.AMI	401				• • • • • • • •		450
ATFAD2.AMI	401						450
BNFAD2.AMI	401			•			450
GMFAD2-1.AMI	401						450
GMFAD2-2.AMI	401						450
ZMFAD2.AMI	401						450

Molecular weight markers

EHX



3.6 -

1.8 -

1.5 -

Figure 10

